

ABSTRACT

In the case that at the time of generation of a pre-fetch request following a read request from one of the processors the data stored in other cache devices cannot be read unless its state tag is changed, a cache controller carries out weak read operation for causing failure in the pre-fetch request as a fetch protocol. Alternatively, the cache controller reads pre-fetch data without changing state tags of other cache devices, sets a weak read state (W), and stores the data. The data in the weak read state (W) is invalidated by synchronization operation of memory consistency by software. Furthermore, the pre-fetch data is stored in a passive preservation mode in the present cache device. Even if the pre-fetch data corresponds to a read request from some other cache device, the preservation of the data is not informed to the other cache device.

09786049-061801
FOI 90-64098Z60